Claims:

1. A technique for controlling access to a shared computer resource by each of two or more computer processes requiring access to a shared computer resource which comprises:

assigning an access value and a relative priority value to each of the computer processes;

and thereafter for each access cycle permitting each computer process access to the shared computer resource in accordance with each process' access value and relative priority value such that for each access cycle;

providing access to each computer processes having pending high priority requests is provided access to the shared computer resource until the access value of each such computer process is exhausted, and thereafter;

providing access to each computer process having pending low priority requests access to the shared computer resource until the access value of each such computer process is exhausted whereupon;

the access values of each computer process is reallocated by adding to any existing access value of each process the access value originally assigned prior to any access cycle, and thereafter;

any remaining pending requests for access present in any computer process are provided access to the shared computer resource as a low priority request

until all pending requests for access to the shared computer are satisfied.

2. The technique according to claim 1 which comprises the further process step of:

restarting the access cycle after all pending requests for access to the shared computer are satisfied.

3. The technique according to claim 1 wherein at least two different relative priority values are present.

4. The technique according to claim 3 wherein at least one of the computer processes is an isochronous process.

5. The technique according to claim 3 wherein at least one of the computer processes is an asynchronous process.

6. An article comprising a computer-readable medium which stores executable instructions for controlling access to a shared computer resource by each of two or more computer processes, the instructions causing a computer to:

assign an access value and a relative priority value to each of the computer processes;

and thereafter for each access cycle permit each computer process access to the shared computer resource in accordance with each process' access value and relative priority value such that for each access cycle;

provide access to each computer processes having pending high priority requests is provided access to the shared computer resource until the access value of each such computer process is exhausted, and thereafter;

provide access to each computer process having pending low priority requests access to the shared computer resource until the access value of each such computer process is exhausted whereupon;

reallocating the access values of each computer process by adding to any existing access value of each process the access value originally assigned prior to any access cycle, and thereafter;

provide access to the shared computer resource by any remaining pending requests which are present as a low priority request until all pending requests for access to the shared computer are satisfied.

7. The article according to claim 6 which further comprises the instructions causing a computer to restart the access cycle after all pending requests for access to the shared computer are satisfied.

8. The article according to claim 6 wherein instructions are provided for controlling access to a shared computer resource by each of at least two computer processes wherein at least two different relative priority values are present.

9. The technique according to claim 8 wherein at least one of the computer processes is an isochronous process.

10. The technique according to claim 8 wherein at least one of the computer processes is an asynchronous process.

11. An apparatus for controlling access to a shared computer resource by each of two or more computer processes requiring access to a shared computer resource which comprises:

a controller which;

assigns an access value and a relative priority value to each of the computer processes;

and thereafter for each access cycle permits each computer process access to the shared computer resource in accordance with each process' access value and relative priority value such that for each access cycle;

provides access to each computer processes having pending high priority requests access to the shared computer resource until the access value of each such computer process is exhausted, and thereafter;

provides access to each computer process having pending low priority requests access to the shared computer resource until the access value of each such computer process is exhausted whereupon;

reallocates the access values of each computer process by adding to any existing access value of each process the access value originally assigned prior to any access cycle, and thereafter;

provides access to the shared computer resource by any remaining pending requests for access present in any computer process as a low priority request until all pending requests for access to the shared computer are satisfied.

12. The apparatus according to claim 11 wherein the controller further:

restarts the access cycle after all pending requests for access to the shared computer are satisfied.

13. The apparatus according to claim 11 wherein at least two different relative priority values are present.

14. The apparatus according to claim 13 wherein at least one of the computer processes is an isochronous process.

15. The apparatus according to claim 13 wherein at least one of the computer processes is an asynchronous process.

16. The apparatus according to claim 11 wherein the controller is a memory controller.

17. The apparatus according to claim 11 wherein the shared memory resource is a shared memory bank.

add a2